Section 8. Bluefish

Introduction

Bluefish (*Pomatmus saltatrix)* are an important recreational fishery along the Atlantic Coast. During the 1980's it was one of the top three, most frequently sought after species. When the other top recreational species (striped bass and weakfish) declined, more fishing pressure was exerted on the bluefish stock and contributed to its decline. Bluefish also support a commercial fishery which accounts for about 20% of the total harvest.

Chesapeake Bay FMP

The Chesapeake Bay Fishery Management Plan (FMP) for Bluefish was adopted by the Chesapeake Bay jurisdictions in 1990. This FMP was implemented in response to the coastal FMP for bluefish, and facilitates conservation within the Chesapeake Bay. The primary objectives of the CB FMP are: 1) assess the stock status and gauge fishing pressure within the Chesapeake Bay; 2) promote the discontinuation of wasteful harvest practices of bluefish resources within the Chesapeake Bay; 3) assess research and monitoring needs of bluefish within the Chesapeake Bay; 4) determine and monitor a reasonable and fair allocation of harvest; and, 5) begin to determine the impact of both habitat status and water quality on bluefish resources within the Chesapeake Bay.

An amendment to the CB FMP was developed and revised in 2003, but not formally adopted. Two new objectives were provided concerning water quality and habitat goals, and multi-species interactions. The multispecies objective will be included in the new ecosystem based management plan under development for striped bass. A synopsis of the FMP and amendment can be found in Table 8.1 and 8.2.

Atlantic Coast FMP

The development of a coastal FMP was a long process that started in 1984 and was finally completed in 1989/1990. The Atlantic States Marine Fisheries Commission (ASMFC) and the Mid-Atlantic Fisheries Management Council (MAFMC) jointly manage the bluefish stock. The FMP was developed in response to decreased levels of stock abundance. Primary objectives of the coastal FMP include: 1) to increase the understanding of the stock and the fishery; 2) provide the highest availability of bluefish to U.S. fishermen; 3) provide for cooperation among coastal and regional jurisdictions to enhance management throughout the range of coastal bluefish; 4) prevent recruitment overfishing; and 5) reduce waste in both the commercial and recreational fisheries. Toward these objectives, the FMP provided licensing guidelines and creel limits. Allocation of harvest guidelines were also provided, with 80% of the harvest allotted to the recreational fishermen, and 20% of the harvest allotted to commercial fishermen.

The coastal FMP was amended in 1998/1999 and adopted in 2000. The amendment provides an overfishing definition for the bluefish stock and a management framework for rebuilding the stock over the next nine years. The rebuilding framework

set forth a number of targets to reduce fishing mortality. We are now in the third phase of rebuilding, where a fishing mortality (F) of 0.31, or approximately 36%, must be maintained through 2007. Management measures also included in the amendment are 1) a commercial quota; 2) minimum sizes; 3) minimum mesh sizes; 4) gear restrictions; 5) recreational harvest limits; and, 6) recreational possession limits, size limits and seasonal closures. The coastal commercial quota and recreational harvest limit can be adjusted annually. There are state-by-state quotas based on landings from 1981-1989. The total allowable landings (TAL) for 2004 was 31.9 million pounds with 10.5 million pounds allocated to the commercial fishery and 21.35 million pounds allocated to the recreational fishery. ASMFC also requires each state to complete an annual compliance report (Appendix 5).

Stock Status

Fishing mortality on the coastal bluefish stock peaked in 1987 at F=0.72. At that time the stock was overfished and overfishing was occurring. Since then, the implementation of management measures has been successful at reducing F. Estimates of F declined to 0.18 in 2002 and most recent estimates indicate an F around 0.19. The current F is below the targets for 2003 and 2004. The coastal FMP set F=0.41 for the 2001-2003 period, and F=0.31 in 2004-2007. Currently, the stock is not overfished and the lower F estimates indicate overfishing is not occurring. Since 1995, biomass has been increasing. The most recent biomass estimate for 2004 is 92.3 million pounds. If F remains at current levels, model projections suggest biomass will continue to increase. A new coastal stock assessment was completed in 2005 and is currently being peer reviewed. Recommendations for establishing new biological reference points are expected.

Bluefish are monitored in the Maryland portion of the Chesapeake Bay by a couple of different surveys. Commercial pound nets are sampled for biological data. In 2004, data results indicate that the average size of bluefish caught by pound nets was slightly larger. However, in general, the length distribution of bluefish has contracted since 2000. This means that smaller fish are available to anglers and that the smaller size dominates the population (Sadzinski et al 2004). Maryland biologists also survey young-of-the-year (YOY) bluefish in the Chesapeake Bay. Although there is great variability from year-to-year, there has been a general declining trend since the survey began in 1980 (Mowrer 2005).

Fishery Statistics

Both the recreational and commercial fisheries are managed coast wide via a harvest limit and a commercial quota. Total allowable landings (TALs) are set each year for the Atlantic coast and the 2004 TAL for bluefish was 31.9 million pounds. While Maryland is allowed 3% of the TAL, less than 1% was harvested from Maryland's portion of the Chesapeake Bay in 2004.

The Chesapeake bluefish fishery is predominantly recreational. Recreational harvests declined dramatically starting in 1987 (Figure 8.1). Harvest from the Atlantic coast typically makes up more of Maryland's harvest than landings from the Chesapeake. Although the coastal FMP allows a daily creel for recreational anglers up to 15 fish/day, both Maryland and Virginia have a more conservative creel limit at 10 fish/day. Maryland also requires a minimum size of 8 inches.

The commercial harvest of bluefish from Maryland has also decreased from 233,351 pounds in 1991 to 14,831 pounds in 2004 (Figure 8.2). Most bluefish are commercially harvested from May to October. The primary gear type for harvesting bluefish is from pound nets but gill nets, otter trawls, haul seines, and hand lines are also used.

Emerging Issues

There is a national and regional movement to change fisheries management plans from a single-species approach to ecosystem-based management. The new management plans will consider predator-prey interactions, habitat use, land use, and commercial and recreational harvests. Toward those goals, habitat use by bluefish in the Chesapeake Bay is being explored at the University of Maryland. There has been a hypothesis that the standing stock of bluefish may have moved further offshore and proposed as a reason for the observed lower abundance. There is no evidence to support this suggestion and it should be investigated.

Figure 8.1. Estimated Recreational Bluefish Harvest from Maryland, 1983-2004 (sources: MRFSS).

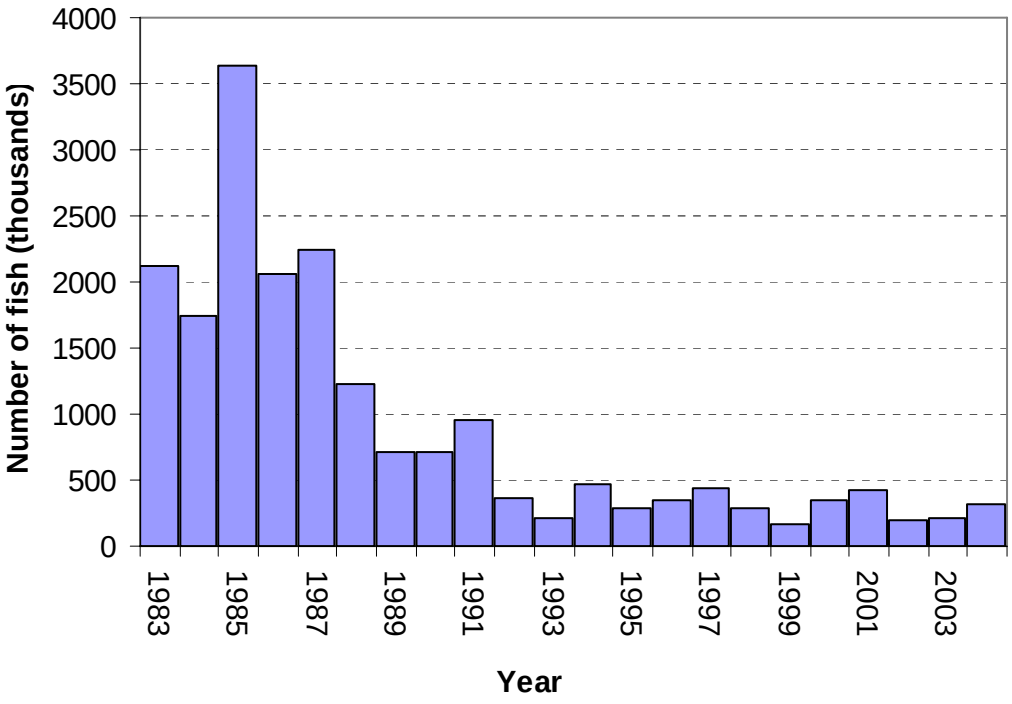

Figure 8.2. Commercial Bluefish Landings from Maryland, 1983-2004.

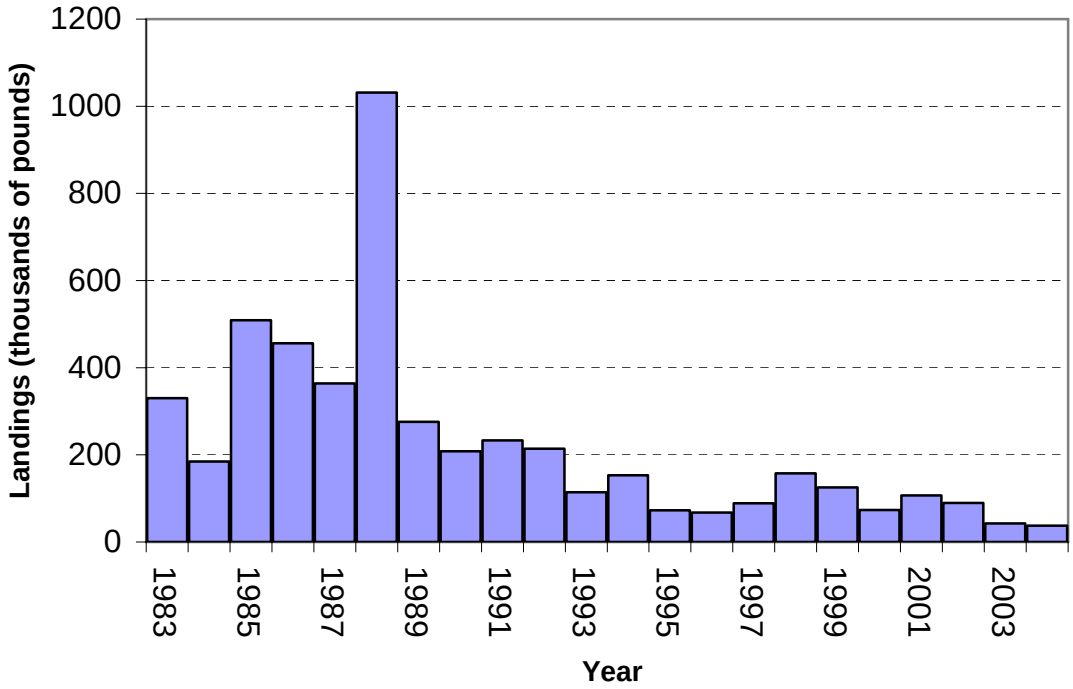

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Table 8.1. 1990 Chesapeake Bay Bluefish Implementation (10/05)

Problem Area	Action	Date	Comments
1. Stock Status & Increased Fishing	1.1 Continue to participate in scientific and technical meetings for managing bluefish along the coast and in estuarine waters. A 9-year stock rebuilding has been adopted by ASFMC/MAFMC.	Continue	An ASMFC Amendment #1 was adopted in 1999. Amendment I to the CB FMP was drafted in 2003. Fishing mortality (F) has remained below F_{MSY} since 1999 and F_{2005}=0.19.
	1.2.1 Will adhere to state allocations by the ASMFC/MAFMC if commercial harvest levels meet criteria in the coastal plan.	Continue	A quota was established in 1995. Maryland was allocated 3% of the coastal TAL and Virginia was allocated 11.9%. Allocations are based on historical landings.
	1.1.2.2 Will continue to present licensing requirements for harvest and sale; VA will establish a 10 fish creel limit for its commercial hook and line fishery and pursue a license for that fishery.	1991 Continue	No changes.
	1.2.2.3 MD will establish a 10 fish/person/day recreational creel limit. VA and PFRC instituted a 10 fish creel in the summer of 1990. Creel limits and minimum legal sizes may be modified as appropriate.	1991 Continue	A 10 fish creel limit is enforced by the Bay jurisdictions. MD implements 8 inch minimum size in 1991.
2. Wasteful Harvest (This is no longer a concern although it was in 1990)	2.1.1 A 10 fish creel limit will minimize wastage	1991	A 10 fish creel limit is enforced by the Bay jurisdictions. MD implements 8 inch minimum size.
	2.1.2 Educate the general public about the need to reduce waste in the bluefish fishery	1991	The jurisdictions are actively promoting hook and release program. Wasteful practices are no longer an issue given the overfished status of the stock.
	2.1.3 Assess the factors causing waste in the commercial fishery and identify potential solutions	1991	Knowledge of current status of the stock and the commercial quota has reduced waste
3. Research Needs	3.1.1 Improve the catch and effort data collected from the bluefish commercial fishery in the Bay.	1991 Continue	Mandatory reporting is in effect in all Bay jurisdictions.
	3.1.2 Assess methods for improving recreational and charter catch/effort data needed to evaluate biological and economic impacts	1991	MD requires logbooks for charter boats
	3.1.3 Encourage research to collect data on bluefish	Continue	There are several habitat related research projects currently in progress.

Table 8.1. 1990 Chesapeake Bay Bluefish Implementation (10/05)

Problem Area	Action	Date	Comments
4. Habitat Issues	3.1.3 Continue to set goals for water quality and habitat, review programs established under Chesapeake 2000 agreement	Continue	Juvenile bluefish habitat has been identified in the 2003 Amendment I of the 1990 CBP FMP.
5. Current Stock Status	5.1 Chesapeake jurisdictions have adopted the ASMFC/MAFMC overfishing definition and 9-year stock rebuilding schedule [F=0.51 (1999-2000); F=0.41 (2000-2003); F=0.31 (2004-2007)]	1999 Continue	The most recent stock assessment indicates that the stock is increasing. Overfishing is not occurring but the stock is still considered overfished. Biomass levels are still lower than expected.

ASMFC= Atlantic States Marine Fisheries Commission
MAFMC= Mid-Atlantic Fisheries Management Council
TAL= Total Allowable Landings
(F)= Fishing Mortality
(F_{MSY})= Fishing mortality at the "threshold" biological reference point. If (F) is at a rate beyond this point (F_{MSY}), overfishing is occurring because the fishing of the stock has gone beyond the stock's Maximum Sustainable Yield (MSY).